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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,907	10/20/2003	Reynold V. D'Sa	42390P7945C	3974

8791 7590 05/18/2004

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EXAMINER

MEONSKE, TONIA L

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,907

Applicant(s)

D'SA ET AL.

Examiner

Tonia L Meonske

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,9,10,21,23,24,26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,9,10,21,23,24,26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/20/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract is objected to for containing over 150 words.
2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
4. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).
5. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).
6. Claims 1, 9, 10, 21, 23, 24, 26, and 27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6, 7, 19, 20, 21, 22, and 23, respectively, of U.S. Patent No. 6,715,064. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 6, 7, 19, 20, 21, 22, and 23 of

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Patent No. 6,715,064 contain every element of claims 1, 9, 10, 21, 23, 24, 26, and 27, respectively, of the instant application and as such anticipate claims 1, 9, 10, 21, 23, 24, 26, and 27 of the instant application.

7. "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 10 recites the limitation "the last index" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purposes of examination, the last index will be read as any index in the system. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

12. Claims 21, 23, 24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Talcott, US Patent 6,272,623, cited in the IDS filed on October 20, 2003.

13. Referring to claim 21, Talcott has taught a circuit, comprising:

- a. a register (Figure 2, element 240);
- b. a data shifting circuit having an input coupled to an output of the register (Figure 2, elements 220 and 230);
- c. an exclusive OR circuit having a first input coupled to an output of the data shifting circuit (Figure 2, element 250);
- d. an array coupled to a second input of the exclusive OR circuit to transfer transform data to the exclusive OR circuit, and further coupled to the data shifting circuit to transfer data shift information to the data shifting circuit (Figure 2, A program counter provides the instruction address. The program counter is an array with one element.); and
- e. a prediction logic circuit coupled to an output of the exclusive OR circuit (Figure 2, element 260).

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14. Referring to claim 23, Talcott has taught the circuit of claim 21, as described above, and wherein the data shifting circuit includes a plurality of inputs coupled to the output of the register (Figure 2, g bits are input to the data shifting circuit.) to shift data from the register by a selected number of bits (Figure 2, The data shifting circuit shifts the g bits adjacent to the I bits for the XOR circuit 250.).

15. Referring to claim 24, Talcott has taught a computer system comprising:

- a. an instruction execution pipeline (Figure 1);
- b. a transform generation circuit coupled to the instruction execution pipeline and including:
 - i. a register (Figure 2, element 240);
 - ii. a data shifting circuit having an input coupled to an output of the register (Figure 2, elements 220 and 230);
 - iii. an exclusive OR circuit having a first input coupled to an output of the data shifting circuit (Figure 2, element 250);
 - iv. an array coupled to a second input of the exclusive OR circuit to transfer transform data to the exclusive OR circuit, and further coupled to the data shifting circuit to transfer data shift information to the data shifting circuit (Figure 2, A program counter provides the instruction address. The program counter is an array with one element.); and
 - v. a prediction logic circuit coupled to an output of the exclusive OR circuit (Figure 2, element 260).

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16. Claim 26 does not recite limitations above the claimed invention set forth in claim 23 and is therefore rejected for the same reasons set forth in the rejection of claim 23 above.

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1, 9, 10, and 27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Pan et al., US Patent 5,553,253, cited in the IDS filed on October 20, 2003.

19. Referring to claim 1, Pan et al. have taught a method, comprising:

- a. providing at least three elements, including a first element and a last element (Abstract, 3 successive branch instructions.), each element having an associated parameter (Figure 3, A27, A28, A29 is a parameter associated with the first element, or branch instruction.);
- b. providing a first identifier for the first element (Figure 3, P0 and P1 is the identifier for the first element, or branch instruction.);
- c. for a first sequential execution of the at least three elements, performing a first operation on the first identifier and at least one of the parameters to produce a transform (Figure 3, When a first branch is taken the 2-bit up/down counter increments the identifier and produces a transform, C0 and C1.);
- d. saving the transform (Figure 3, The transform, Co, C1 is saved in the branch prediction table.); and

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- e. for a second sequential execution of the elements, performing a second operation on the transform to produce a last identifier associated with the last element (Figure 3, When the last element, or the third branch, is taken, the 2-bit up/down counter increments the transform to produce a last identifier associated with the last element, C0, C1).
- 20. Referring to claim 9, Pan et al. have taught the method of claim 1, wherein the at least three elements are branch instructions in an execution pipeline (Abstract, Three successive branch instructions are executed in a pipeline.).
- 21. Referring to claim 10, Pan et al. have taught the method of claim 1, further comprising: using the last index to access a location in a prediction array (Figure 3, element 14, The branch prediction table is indexed by S0, S1, and S2 to access a location in the table.); and
 - a. using a content of said location to predict a decision status of the last element (Figure 3, P0 is a content of the location that is used for the prediction. If the P0 has a value of 1 then the branch is taken. If P0 has a value of 0 then the branch is not taken.).
- 22. Claim 27 does not recite limitations above the claimed invention set forth in claims 1 and 10 and are therefore rejected for the same reasons set forth in the rejection of claims 1 and 10 above.
- 23. Claims 1, 7, 9, 10, and 27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Applicant's own admitted prior art in the specification.
- 24. Referring to claim 1, Applicant has taught a method, comprising:
 - a. providing at least three elements (Figures 1, 2 and 3 labeled "PRIOR ART", BR1, BR2, BR3), including a first element and a last element (BR1 and BR3), each element

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having an associated parameter (BR1 has an associated parameter A, BR2 has an associated parameter B, and BR3 has an associated parameter C.);

b. providing a first identifier for the first element (Figures 1, 2 and 3 labeled "PRIOR ART", Ghist1);

c. for a first sequential execution of the at least three elements, performing a first operation on the first identifier and at least one of the parameters to produce a transform (Figures 1, 2 and 3 labeled "PRIOR ART", XOR Ghist1 and parameter A to produce a transform.);

d. saving the transform (Figures 1, 2 and 3 labeled "PRIOR ART", the transform is saved in Ghist2.); and

e. for a second sequential execution of the elements, performing a second operation on the transform to produce a last identifier associated with the last element (Figure 2, XOR Ghist2 and Parameter B to produce a last identifier, Ghist3.).

25. Referring to claim 7, Applicant has taught the method of claim 1, as described above, and wherein performing the second operation includes:

a. shifting the first identifier to produce a shifted identifier (Figure 2, Ghist1 is shifted to the left by one bit.); and

b. performing an exclusive OR operation on the shifted identifier and the transform to produce the last identifier (Figure 2, An exclusive OR operation is performed on the shifted Ghist1 identifier and the parameter A to produce a transform. An exclusive OR operation is performed on the transform and the parameter B to produce a last identifier, Ghist3.).

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26. Referring to claim 9, Applicant has taught the method of claim 1, wherein the at least three elements are branch instructions in an instruction execution pipeline (Figure 1, Page 3, lines 8-12, BR1 BR2 and BR3 are branch instructions in the execution pipeline.).

27. Referring to claim 10, Applicant has taught the method of claim 1, as described above, and further comprising:

- a. using the last index to access a location in a prediction array (page 2, lines 10-22);
and
- b. using a content of said location to predict a decision status of the last element (page 2, lines 10-13).

28. Claim 27 does not recite limitations above the claimed invention set forth in claims 1 and 10 is therefore rejected for the same reasons set forth in the rejection of claims 1 and 10 above.

Conclusion

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L Meonske whose telephone number is (703) 305-3993. The examiner can normally be reached on Monday-Friday, 9-6:30, with every other Friday off.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie P Chan can be reached on (703) 305-9712. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

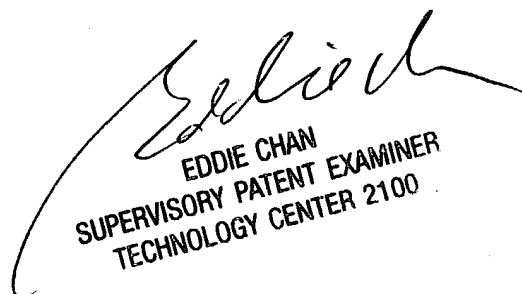
31. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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tlm


EDDIE CHAN
SUPERVISORY PATENT EXAMINER
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